(19)日本国特許庁（ＪＰ）　(12) **実用新案公報**（Ｙ２）　(11)実用新案出願公告番号

実公平7－43583

(24)(44)公告日　平成７年(1995)10月９日

---

(51)Int.Cl.⁶　識別記号　庁内整理番号　ＦＩ　技術表示箇所

Ｆ１６Ｌ　37/12　9137－３Ｊ

請求項の数１（全 ５ 頁）

---

(21)出願番号　実願平3－3136

(22)出願日　平成３年(1991)１月９日

(65)公開番号　実開平4－93593

(43)公開日　平成４年(1992)８月13日

(71)出願人　390039929
三桜工業株式会社
茨城県古河市本町４丁目２番27号

(72)考案者　海塩　光男
茨城県古河市鴻巣693－１

(74)代理人　弁理士　奥山　尚男　（外４名）

審査官　一ノ瀬　覚

(56)参考文献　特開　昭63－289392（ＪＰ，Ａ）

---

(54)【考案の名称】　配管の擬似結合防止構造

【実用新案登録請求の範囲】

フランジ状突条を有する雄部材を雌部材に所定の距離嵌入し、該雌部材に備えた係止爪に上記フランジ状突条を係止することによって両部材を互に結合させる配管の疑似結合防止構造において、上記雄部材に上記雌部材の開口側外周部を覆う筒状部材を配置し、該筒状部材及び上記雌部材の一方に係合突起、他方に係合孔を各々設け、上記筒状部材には上記係止爪とは周方向に異なる位置にあって配管の疑似結合時に上記係合突起と係合孔とが相互に係合する前に先端が上記フランジ状突条に当接する突起部を設け、該突起部の先端で上記フランジ状突条を押して上記雄部材を上記雌部材に上記所定の距離嵌入した時点で、前記筒状部材が上記雌部材の開口側外周部を覆う状態で該雌部材に係止されるように上記突起部の突出長さを設定したことを特徴とする配管の疑似結合防止構造。

【考案の詳細な説明】

【０００１】

【産業上の利用分野】本考案は、例えば自動車のフュエルパイプ，エアチューブ等の連結にあたり、その擬似結合を防止するための構造に関する。

【０００２】

【従来の技術】一般に、自動車のフュエルパイプ，エアチューブ等は、多数の装備品の間を通って配管されているため、その連結を容易にすべく、雄・雌両部材を互いにワンタッチにて連結できるように構成されている。

【０００３】

【考案が解決しようとする課題】しかしながら、上記雄・雌両部材の連結を、外部から目視によって確認することは困難であり、その連結が不完全な場合には、後日液

漏れ等の原因となり、不測の事故を起す憂いがある。

【０００４】また、雄・雌両部材の連結部には、隙間が存在し、該隙間から埃，塵等が侵入する憂いもあった。

【０００５】本考案は、上述した課題に鑑みなされたものであって、その目的は、雄・雌両部材を連結するにあたり、その連結が完全に行われたか否かを外部から容易に確認でき、しかも、連結部における防塵効果も有する配管の擬似結合防止構造を提供することにある。

【０００６】

【課題を解決するための手段】本考案は、上述の課題を解決するため、フランジ状突条を有する雄部材を雌部材に所定の距離嵌入し、該雌部材に備えた係止爪に上記フランジ状突条を係止することによって両部材を互に結合させる配管の疑似結合防止構造において、上記雄部材に上記雌部材の開口側外周部を覆う筒状部材を配置し、該筒状部材及び上記雌部材の一方に係合突起、他方に係合孔を各々設け、上記筒状部材には上記係止爪とは周方向に異なる位置にあって配管の疑似結合時に上記係合突起と係合孔とが相互に係合する前に先端が上記フランジ状突条に当接する突起部を設け、該突起部の先端で上記フランジ状突条を押して上記雄部材を上記雌部材に上記所定の距離嵌入した時点で、前記筒状部材が上記雌部材の開口側外周部を覆う状態で該雌部材に係止されるように上記突起部の突出長さを設定したことを特徴とするものである。

【０００７】

【作用】本考案によれば、雄部材に配置された筒状部材が、雄・雌両部材の完全結合時にのみ雌部材に係止されるように構成したため、該筒状部材が係止されたか否かにより、管体の完全結合を確認することができる。

【０００８】また、筒状部材は、雌部材の開口側外周部を覆う状態で該雌部材に係止されるため、連結部における隙間を防ぐ作用を筒状部材が果し、埃，塵等の侵入を阻止することができる。

【０００９】

【実施例】以下、本考案の実施例を、添付図面に従って詳細に説明する。

【００１０】ここで、図１は本考案にかかる擬似結合防止構造を有する配管の連結部を示した斜視図、図２はその半断面図である。図中１は外周にフランジ状突条２を有する管状の雄部材、３は内周に前記フランジ状突条２を係止する左右（図２においては上下）一対の係止爪４を備えた雌部材である。

【００１１】上記雄・雌両部材１，３は、雄部材１を雌部材３に所定の距離嵌入することにより、上記雌部材３の係止爪４が上記雄部材１のフランジ状突条２を係止し、両部材１，３が結合されるように構成されている。なお、図中５は、結合した両部材１，３のシール性を確保するためのＯリング、６はスペーサ、７は前記Ｏリング５及びスペーサ６を雌部材３内の所定の位置に保持するためのストッパーである。

【００１２】８は上記雄部材１に装着された筒状部材であり、該筒状部材８には、一方の端部に底壁９が存在し、該底壁９を貫通して外方に突出する円筒部10と、該円筒部10に連なり筒状部材８内に突出する上下一対の突起部11が存在する。また、筒状部材８の他方の端部には、スリット12を左右に有する係合孔13がその上下（図２においては前後）部に穿設され、該係合孔13と係合する係合突起14が、前記雌部材３の開口側外周部15に設けられている。

【００１３】上記筒状部材８は、その内径が前記した雌部材３の開口16の外径とほぼ同一に設計され、その長さは前記雌部材３の開口側外周部15を覆うに十分な長さに設計されている。また、筒状部材８より外方に突出する上記円筒部10の内径は、前記雄部材１の外径とほぼ同一であり、その長さは雌部材３の開口16より該円筒部10を挿入した場合、該円筒部先端が雌部材３内部に存在する上記一対の係止爪４に当接し、該係止爪４を左右に押し広げるに十分な長さに設計されている。上記筒状部材８及び雌部材３に各々設けられた係合孔13及び係合突起14は、上記雄部材１が上記雌部材３に所定の距離嵌入した時点で、該筒状部材８が上記雌部材３の開口側外周部15を覆う状態で各々係合するように配置されている。そして、上記筒状部材８内に突出する上下一対の突起部11は、雌部材３に存在する上記係止爪４とは周方向に異なる位置にあって、前記係合孔13及び係合突起14が係合した状態において、その先端が該係止爪４を避けて雄部材１のフランジ状突起２に当接する。また、該上下一対の突起部11は、図９に示すように、配管の疑似結合時に、係合孔13に係合突起14を係合させる前に、先端が上記フランジ状突条２に当接し、該先端で上記フランジ状突条２を押して上記雄部材１を上記雌部材３に上記所定の距離嵌入した時点で、筒状部材８が雌部材３の開口側外周部を覆う状態にて係合孔13に係合突起14が係合するように、突出長さを設定してある。

【００１４】上記構造の筒状部材８は、図３に示したように、２分割された状態の各々の部材を連結する薄肉のヒンジ部17を介して、雄部材１を該筒状部材８の円筒部10が挟持する状態で組合せ、両部材の端部に存在する係合孔18及び係合突起19を係合させることにより、雄部材１に装着された状態で組立てる。

【００１５】つぎに、上述の如く構成された本考案にかかる連結部の連結動作について、図４～図10に従って説明する。

【００１６】まず、雄部材１を雌部材３の開口16から挿入し、雄部材１に設けられたフランジ状突起２を、雌部材３内に存在する係止爪４に係止させる（図４～図６参照）。

【００１７】つぎに、雄部材１に装着された筒状部材８を、雄部材１の外壁に沿ってスライドさせ、前記連結状

態にある雌部材３の開口側外周部15に存在する係合突起14に、該筒状部材８の係合孔13が係合するまで押し込む（図７、図８参照）。

【００１８】この際、雄部材１と雌部材３の連結が不完全な場合には、筒状部材８内に突出した上記突起部11が、所定の距離嵌入していない雄部材１のフランジ状突条２に当接し、筒状部材８の侵入は阻止され、該筒状部材８の雌部材３への係合がなされない（図９参照）。そのため、筒状部材８が雌部材３に係止されているか否かにより、雄・雌両部材１，３の完全結合を目視によって確認できる。

【００１９】また、雄・雌両部材１，３の連結が不完全な場合であっても、雄部材１に装着された筒状部材８を更に強く押し込めば、雄部材１に存在するフランジ状突条２を筒状部材８の突起部11が雌部材３内に押し込み、雄部材１と雌部材３の連結と、筒状部材８と雌部材３との係合が同時になされる（図９、図10参照）。

【００２０】つぎに、上述した動作により連結された雄・雌両部材１，３の引き離し動作について、図11～図13に従って説明する。

【００２１】まず、雌部材３に係止された状態で存在する上記筒状部材８を、係合手段13,14を外すことにより、雌部材３から該筒状部材８を取り出し、さらに該筒状部材８を係合手段18，19を外すことにより、２分割した状態にばらし、雌部材３から該筒状部材８を取り除く。

【００２２】つぎに、筒状部材８から外方に突出する円筒部10を、連結状態にある雌部材３の開口16に向けて該筒状部材８を再び雄部材１に装着する（図11参照）。

【００２３】その後、装着された筒状部材８の円筒部10を、雌部材３の開口16から挿入し、該円筒部10の先端によって雌部材３内に存在する係止爪４を押し広げ、雄部材１のフランジ状突条２の係止を解除する（図12参照）。

【００２４】係止が解除された雄部材１は、筒状部材８と共に雌部材３から引き抜くことができ、その引き離し動作が完了する（図13参照）。

【００２５】以上、本考案の一実施例につき説明したが、本考案は既述の実施例に限定されるものではなく、本考案の技術的思想に基づいて、各種の変更及び変形が可能である。

【００２６】例えば、上記実施例においては、雌部材３の開口側外周部15を覆う筒状部材８に、外方に突出した円筒部10を設けたものを使用したが、該円筒部10は必らずしも必要ではなく、雌部材３の開口側外周部15を覆い、雄部材１にスライド可能に装着し得るものであれば、その形状及び構造は問われない。但し、実施例の如く円筒部10を設けたものとすれば、連結状態にある雄・雌両部材１，３を該円筒部10によって上述した如く引き離すことができる。

【００２７】また、上記実施例においては、雄部材１が雌部材３に所定の距離嵌入した時点で、筒状部材８が雌部材３に係止される構造として、該筒状部材８の内方に突出した突起部11を設けた構造につき説明したが、これに限らず、例えば、図14に示した如く、雄部材１に第２のフランジ状突条20を設け、該第２のフランジ状突条20によって、不完全結合時の筒状部材８の雌部材３への係止を阻止する構造としてもよい（図15，図16参照）。

【００２８】さらに、上記実施例において示した雄部材１と、雌部材３との結合部の構造２，４は、単に一例を示したにすぎず、結合すべき雄部材１を一定の距離雌部材３に嵌入することにより、ワンタッチにて両部材１，３を結合できる構造であれば、既知の種々の構造が利用できる。

【００２９】本考案は、雄部材に雌部材の開口側外周部を覆う筒状部材を配置し、該筒状部材及び雌部材の一方に係合突起、他方に係合孔を各々設け、筒状部材には係止爪とは周方向に異なる位置にあって配管の疑似結合時に上記係合突起と係合孔とが相互に係合する前に先端がフランジ状突条に当接する突起部を設けたことにより、雄・雌両部材を連結するにあたり、その連結が完全に行われたか否かを外部から目視によって確認することができ、突起部の先端でフランジ状突条を押して雄部材を雌部材に所定の距離嵌入した時点で、筒状部材が雌部材の開口側外周部を覆う状態で該雌部材に係止されるように前記突起部の突出長さを設定したことにより、配管が疑似結合状態の時に、筒状部材を押し込め、突起部の先端でフランジ状突条を押して雄部材を雌部材に所定の距離嵌入し、完全な結合状態にすることができ、しかも、連結部における防塵を確実に行うことができるという効果を奏する。

【図面の簡単な説明】

【図１】本考案にかかる構造の全体を示した斜視図である。

【図２】本考案にかかる構造の全体を示した半断面図である。

【図３】本考案において使用する筒状部材の構造を示した斜視図である。

【図４】本考案にかかる構造の雄・雌両部材の連結動作を示した図である。

【図５】本考案にかかる構造の雄・雌両部材の連結動作を示した図である。

【図６】本考案にかかる構造の雄・雌両部材の連結動作を示した図である。

【図７】本考案にかかる構造の雄・雌両部材の連結動作を示した図である。

【図８】本考案にかかる構造の雄・雌両部材の連結動作を示した図である。

【図９】本考案にかかる構造の雄・雌両部材の連結動作を示した図である。

【図10】本考案にかかる構造の雄・雌両部材の連結動作を示した図である。

【図11】本考案にかかる構造の雄・雌両部材の引き離し動作を示した図である。

【図12】本考案にかかる構造の雄・雌両部材の引き離し動作を示した図である。

【図13】本考案にかかる構造の雄・雌両部材の引き離し動作を示した図である。

【図14】本考案にかかる他の構造の全体を示した半断面図である。

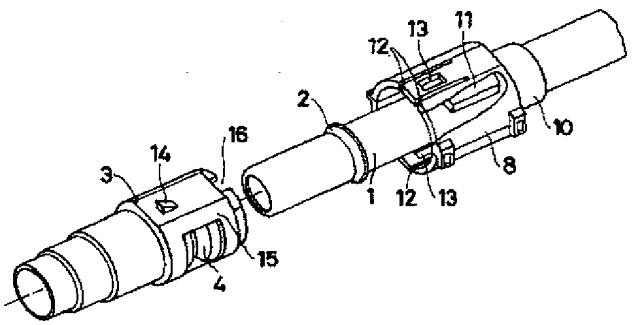
【図15】本考案にかかる他の構造の雄・雌両部材の連結動作を示した図である。

【図16】本考案にかかる他の構造の雄・雌両部材の連結動作を示した図である。

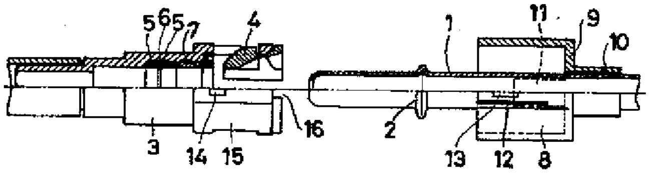
＊【符号の説明】

1	雄部材
2	フランジ状突条
3	雌部材
4	係止爪
8	筒状部材
9	底壁
10	円筒部
11	突起部
13	係合孔
14	係合突起
15	開口側外周部
16	開口
20	第２のフランジ状突条

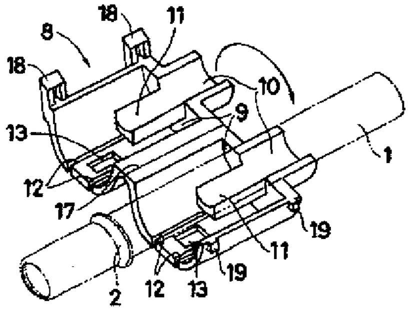
【図１】



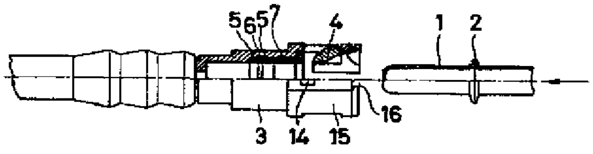
【図２】



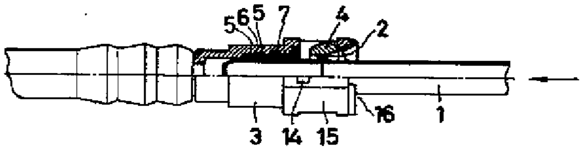
【図３】



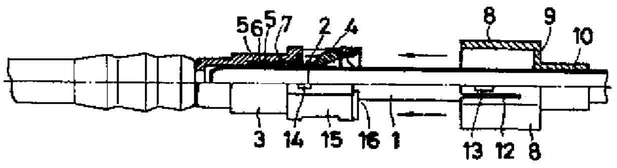
【図４】



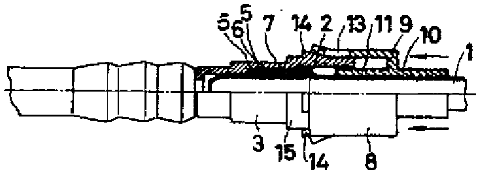
【図５】



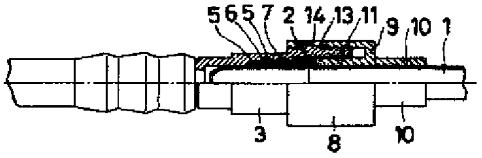
【図６】



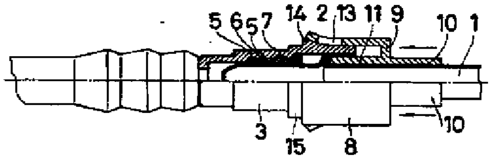
【図７】



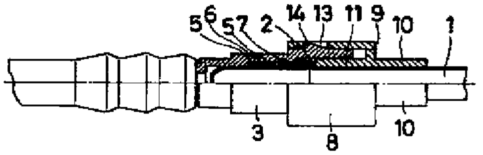
【図8】



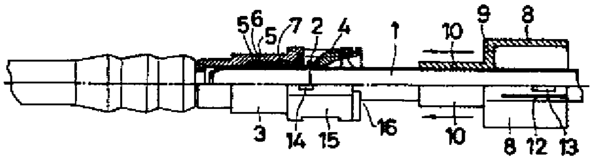
【図9】



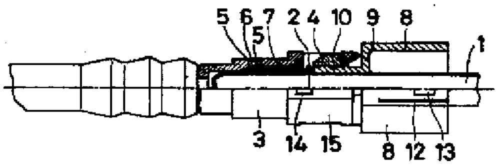
【図10】



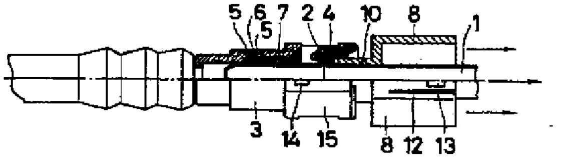
【図11】



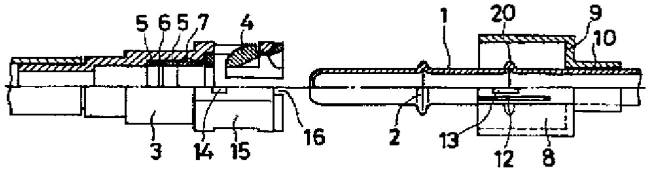
【図12】



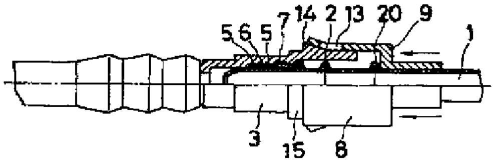
【図13】



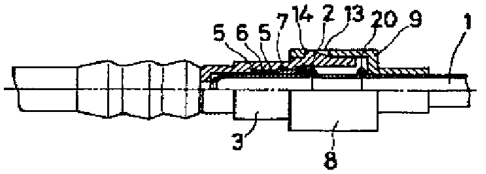
【図14】



【図15】



【図16】



* NOTICES *

JPO and INPIT are not responsible for any damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

CLAIMS

[Utility model registration claim]
In the false joint prevention structure of piping which combines both members with ** by stopping the above-mentioned flange-like protruding line on the stop pawl which predetermined carried out distance insertion at the female member, and equipped this female member with the male part material which has a flange-like protruding line Wrap tubed part material is arranged for the opening side periphery section of the above-mentioned female member to the above-mentioned male part material. To either this tubed part material or the above-mentioned female member An engagement projection, Prepare an engagement hole in another side respectively, and the height to which a tip contacts the above-mentioned flange-like protruding line before being in a location which is different from the above-mentioned stop pawl in the above-mentioned tubed part material in a hoop direction and engaging the above-mentioned engagement projection and an engagement hole mutually at the time of false association of piping is prepared. When the above-mentioned flange-like protruding line is pushed at the tip of this height and predetermined one carries out [above-mentioned] distance insertion of the above-mentioned male part material at the above-mentioned female member False joint prevention structure of piping characterized by setting up the wire extension of the above-mentioned height so that said tubed part material may be stopped by this female member in the state of a wrap in the opening side periphery section of the above-mentioned female member.

[Translation done.]

* NOTICES *

JPO and INPIT are not responsible for any damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed explanation of a design]
[0001]
[Industrial Application] This design is related with the structure for preventing the false association in connection of the fuel pipe of an automobile, an air tube, etc.
[0002]
[Description of the Prior Art] Generally, since it is piped through between much equipment, the fuel pipe of an automobile, the air tube, etc. are constituted that the connection should be made easy so that a male and female Ryobe material can be mutually connected in one-touch.
[0003]
[Problem(s) to be Solved by the Device] However, it is difficult to check connection of the above-mentioned male and female Ryobe material by viewing from the exterior, and when the connection is imperfect, it becomes causes, such as a liquid spill, later and there is anxiety which causes unexpected accident.
[0004] Moreover, a clearance exists in the connection section of a male and female Ryobe material, and it is dust from this clearance, There was also anxiety into which dust etc. invades.
[0005] This design is made in view of the technical problem mentioned above, and in connecting a male and female Ryobe material, the purpose can check easily whether the connection has been performed completely from the outside, and, moreover, is to offer the false joint prevention structure of piping which also has the protection-against-dust effectiveness in the connection section.
[0006]
[Means for Solving the Problem] In order that this design may solve an above-mentioned technical problem, predetermined carries out distance insertion of the male part material which has a flange-like protruding line at a female member. In the false joint prevention structure of piping which combines both members with ** by stopping the above-mentioned flange-like protruding line on the stop pawl with which this female member was equipped Wrap tubed part material is arranged for the opening side periphery section of the above-mentioned female member to the above-mentioned male part material. To either this tubed part material or the above-mentioned female member An engagement projection, Prepare an engagement hole in another side respectively, and the height to which a tip contacts the above-mentioned flange-like protruding line before being in a location which is different from the above-mentioned stop pawl in the above-mentioned tubed part material in a hoop direction and engaging the above-mentioned engagement projection and an engagement hole mutually at the time of false association of piping is prepared. When the above-mentioned flange-like protruding line is pushed at the tip of this height and predetermined one carries out [above-mentioned] distance insertion of the above-mentioned male part material at the above-mentioned female member, it is characterized by setting up the wire extension of the above-mentioned height so that said tubed part material may be stopped by this female member in the state of a wrap in the opening side periphery section of the above-mentioned female member.
[0007]
[Function] Since according to this design the tubed part material arranged at male part material constituted so that it might be stopped by the female member only at the time of the unity

coupling of a male and female Ryobe material, the unity coupling of a shell can be checked by whether this tubed part material was stopped.
[0008] Moreover, since tubed part material is stopped by this female member in the state of a wrap in the opening side periphery section of a female member, tubed part material can achieve the operation which prevents the clearance in the connection section, and it can prevent invasion of dust, dust, etc.
[0009]
[Example] Hereafter, the example of this design is explained to a detail according to an accompanying drawing.
[0010] The perspective view and drawing 2 which showed the connection section of piping which has the false joint prevention structure which drawing 1 requires for this design here are the half section Fig. The male part material of the shape of tubing to which one in drawing has the flange-like protruding line 2 on a periphery, and 3 are the female members which equipped inner circumference with the stop pawl 4 of a right-and-left (it fluctuates in drawing 2) pair which stops said flange-like protruding line 2.
[0011] When predetermined carries out distance insertion of the male part material 1 at the female member 3, the stop pawl 4 of the above-mentioned female member 3 stops the flange-like protruding line 2 of the above-mentioned male part material 1, and above-mentioned male and female Ryobe material 1 and 3 are constituted so that both the members 1 and 3 may be combined. In addition, he is a stopper for an O ring for five in drawing to secure the seal nature of both the united members 1 and 3 and 6 to hold said O ring 5 and spacer 6 to a spacer, and for 7 hold them to the position in the female member 3.
[0012] 8 is the tubed part material with which the above-mentioned male part material 1 was equipped, a bottom wall 9 exists in one edge, and the body 10 which penetrates this bottom wall 9 and projects in the method of outside, and the height 11 of the vertical pair which stands in a row in this body 10, and projects in the tubed part material 8 exist in this tubed part material 8. Moreover, the engagement hole 13 which has a slit 12 right and left at the other-end section of the tubed part material 8 is drilled in the vertical (before and after setting to drawing 2) section, and the engagement projection 14 to which it engages with this engagement hole 13 is formed in the opening side periphery section 15 of said female member 3.
[0013] The above-mentioned tubed part material 8 is designed almost identically to the outer diameter of the opening 16 of the female member 3 which the bore described above, and the die length is designed in the opening side periphery section 15 of said female member 3 by sufficient die length for a wrap. Moreover, the bore of the above-mentioned body 10 which projects in the method of outside [material / 8 / tubed part] is almost the same as the outer diameter of said male part material 1, and when this body 10 is inserted from the opening 16 of the female member 3, the die length contacts the stop pawl 4 of the Norikazu pair when this body tip exists in the female member 3 interior, and is designed by sufficient die length to extend this stop pawl 4 right and left. When predetermined carries out [the above-mentioned male part material 1] distance insertion at the above-mentioned female member 3, the engagement hole 13 and the engagement projection 14 which were respectively prepared in the above-mentioned tubed part material 8 and the female member 3 are arranged so that this tubed part material 8 may be respectively engaged in the state of a wrap in the opening side periphery section 15 of the above-mentioned female member 3. And the height 11 of the vertical pair which projects in the above-mentioned tubed part material 8 is in a location which is different in a hoop direction in the above-mentioned stop pawl 4 which exists in the female member 3, and in the condition that said engagement hole 13 and the engagement projection 14 were engaged, the tip avoids this stop pawl 4, and contacts the flange-like projection 2 of the male part material 1. As the height 11 of this vertical pair is shown in drawing 9 , moreover, at the time of false association of piping Before making the engagement projection 14 engage with the engagement hole 13, when a tip contacts the above-mentioned flange-like protruding line 2, the above-mentioned flange-like protruding line 2 is pushed at this tip and predetermined one carries out [above-mentioned] distance insertion of the above-mentioned male part material 1 at the above-mentioned female member 3 The tubed part material 8 has set up the wire extension so that the engagement

projection 14 may engage the opening side periphery section of the female member 3 with the engagement hole 13 in the state of a wrap.

[0014] As shown in drawing 3 , the tubed part material 8 of the above-mentioned structure is assembled by making the engagement hole 18 and the engagement projection 19 which exist in the edge of combination and both members in the condition that the body 10 of this tubed part material 8 pinches the male part material 1 engaged through the hinge region 17 of the thin meat which connects each member in the condition of having been divided into two, where the male part material 1 is equipped.

[0015] Connection actuation of the connection section which starts next this design constituted like **** is explained according to drawing 4 - drawing 10.

[0016] First, the male part material 1 is inserted from the opening 16 of the female member 3, and the stop pawl 4 which exists in the female member 3 is made to stop the flange-like projection 2 prepared in the male part material 1 (refer to drawing 4 - drawing 6).

[0017] Next the tubed part material 8 with which the male part material 1 was equipped is made to slide in accordance with the outer wall of the male part material 1, and it pushes in until the engagement hole 13 of this tubed part material 8 engages with the engagement projection 14 which exists in the opening side periphery section 15 of the female member 3 in said connection condition (refer to drawing 7 and drawing 8). .

[0018] Under the present circumstances, when connection of the male part material 1 and the female member 3 is imperfect, the above-mentioned height 11 projected in the tubed part material 8 contacts the flange-like protruding line 2 of the predetermined male part material 1 which has not carried out distance insertion, invasion of the tubed part material 8 is prevented and the engagement to the female member 3 of this tubed part material 8 is not made (refer to drawing 9). Therefore, a male and the female Ryobe material 1, and the unity coupling of 3 can be checked by viewing by whether the tubed part material 8 is stopped by the female member 3.

[0019] Moreover, if the tubed part material 8 with which the male part material 1 was equipped is pushed in still more strongly even if it is a case with imperfect male and female Ryobe material 1, and connection of 3 The height 11 of the tubed part material 8 pushes in the flange-like protruding line 2 which exists in the male part material 1 in the female member 3, and engagement to connection of the male part material 1 and the female member 3, and the tubed part material 8 and the female member 3 is made by coincidence (refer to drawing 9 and drawing 10).

[0020] The male and the female Ryobe material 1 connected by the actuation mentioned above to attach, and pulling-apart actuation of 3 are explained according to drawing 11 - drawing 13.

[0021] First, by removing the engagement means 13 and 14 for the above-mentioned tubed part material 8 which exists after having been stopped by the female member 3, this tubed part material 8 is further taken into pieces in the condition of having divided into two by removing the engagement means 18 and 19, by taking out this tubed part material 8 from the female member 3, and this tubed part material 8 is removed from the female member 3.

[0022] Next, the male part material 1 is again equipped with this tubed part material 8 towards the opening 16 of the female member 3 which is in a connection condition about the body 10 which projects in the method of outside from the tubed part material 8 (refer to drawing 11).

[0023] Then, the body 10 of the tubed part material 8 with which it was equipped is inserted from the opening 16 of the female member 3, the stop pawl 4 which exists in the female member 3 by the tip of this body 10 is extended, and the stop of the flange-like protruding line 2 of the male part material 1 is canceled (refer to drawing 12).

[0024] The male part material 1 of which the stop was canceled can be drawn out from the female member 3 with the tubed part material 8, and the pulling-apart actuation completes it (refer to drawing 13). .

[0025] As mentioned above, although explained per example of this design, this design is not limited to an example as stated above, and various kinds of modification and deformation are possible for it based on the technical thought of this design.

[0026] although what formed the body 10 which projected the opening side periphery section 15 of the female member 3 to the method of outside at the wrap tubed part material 8 in the above-mentioned example was used -- this body 10 -- also ******(ing) -- if it is not required, the opening side periphery section 15 of the female member 3 is covered and the male part material 1 can be equipped possible [a slide], the configuration and structure will not be asked. However, like an example, as the thing which formed the body 10 then the male and female Ryobe material 1 in a connection condition, and 3 were mentioned above by this body 10, it can pull away.

[0027] Moreover, although the male part material 1 explained as structure where the tubed part material 8 is stopped by the female member 3, in the above-mentioned example per [which formed the height 11 projected to the way among these tubed part material 8] structure when predetermined carried out distance insertion at the female member 3 it was shown not only in this but in drawing 14 -- as -- the male part material 1 -- the 2nd flange-like protruding line 20 -- preparing -- this -- it is good also as structure which prevents the stop to the female member 3 of the tubed part material 8 at the time of imperfect association by the 2nd flange-like protruding line 20 (refer to drawing 15 and drawing 16) .

[0028] Furthermore, it does not pass over the structure 2 of the bond part of the male part material 1 shown in the above-mentioned example, and the female member 3, and 4 for an example to only have been shown, but if they are the structure which can combine both the members 1 and 3 in one-touch by inserting in the fixed distance female member 3 the male part material 1 which should be combined, they can use known various structures.

[0029] This design arranges wrap tubed part material for the opening side periphery section of a female member to male part material. Prepare an engagement projection in either this tubed part material or a female member, and an engagement hole is respectively prepared in another side. By having prepared the height to which a tip contacts a flange-like protruding line before being in a location which is different from a stop pawl in tubed part material in a hoop direction and engaging the above-mentioned engagement projection and an engagement hole mutually at the time of false association of piping When in connecting a male and female Ryobe material it can check from the exterior whether the connection has been performed completely by viewing, a flange-like protruding line is pushed at the tip of a height and predetermined carries out distance insertion of the male part material at a female member By having set up the wire extension of said height so that tubed part material might be stopped by this female member in the state of a wrap in the opening side periphery section of a female member When piping is a false integrated state, tubed part material is pushed in, a flange-like protruding line can be pushed at the tip of a height, predetermined can carry out distance insertion of the male part material at a female member, it can be made a perfect integrated state, and, moreover, the effectiveness that the protection against dust in the connection section can be performed certainly is done so.

[Translation done.]

* NOTICES *

JPO and INPIT are not responsible for any damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is the perspective view having shown the whole structure concerning this design.
[Drawing 2] It is the half section Fig. having shown the whole structure concerning this design.
[Drawing 3] It is the perspective view having shown the structure of the tubed part material used in this design.
[Drawing 4] It is drawing having shown connection actuation of the male and female Ryobe material of the structure concerning this design.
[Drawing 5] It is drawing having shown connection actuation of the male and female Ryobe material of the structure concerning this design.
[Drawing 6] It is drawing having shown connection actuation of the male and female Ryobe material of the structure concerning this design.
[Drawing 7] It is drawing having shown connection actuation of the male and female Ryobe material of the structure concerning this design.
[Drawing 8] It is drawing having shown connection actuation of the male and female Ryobe material of the structure concerning this design.
[Drawing 9] It is drawing having shown connection actuation of the male and female Ryobe material of the structure concerning this design.
[Drawing 10] It is drawing having shown connection actuation of the male and female Ryobe material of the structure concerning this design.
[Drawing 11] It is drawing having shown pulling-apart actuation of the male and female Ryobe material of the structure concerning this design.
[Drawing 12] It is drawing having shown pulling-apart actuation of the male and female Ryobe material of the structure concerning this design.
[Drawing 13] It is drawing having shown pulling-apart actuation of the male and female Ryobe material of the structure concerning this design.
[Drawing 14] It is the half section Fig. having shown other whole structure concerning this design.
[Drawing 15] It is drawing having shown connection actuation of the male and female Ryobe material of other structures concerning this design.
[Drawing 16] It is drawing having shown connection actuation of the male and female Ryobe material of other structures concerning this design.
[Description of Notations]
1 Male Part Material
2 Flange-like Protruding Line
3 Female Member
4 Stop Pawl
8 Tubed Part Material
9 Bottom Wall
10 Body
11 Height
13 Engagement Hole
14 Engagement Projection

15 Opening Side Periphery Section
16 Opening
20 2nd Flange-like Protruding Line

[Translation done.]

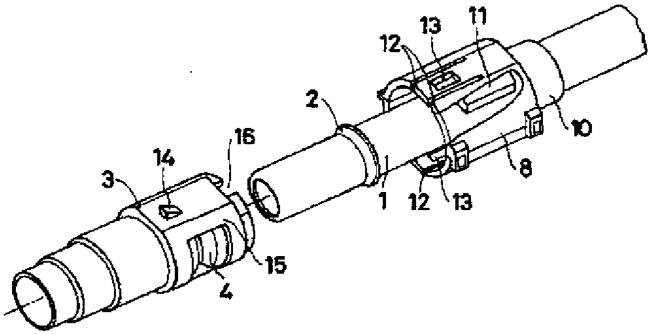
* NOTICES *

JPO and INPIT are not responsible for any damages caused by the use of this translation.

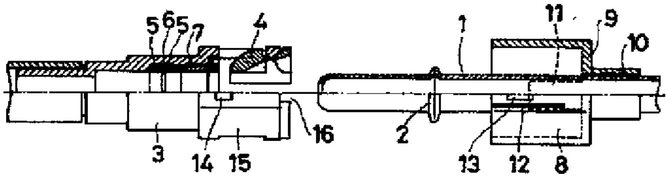
1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DRAWINGS

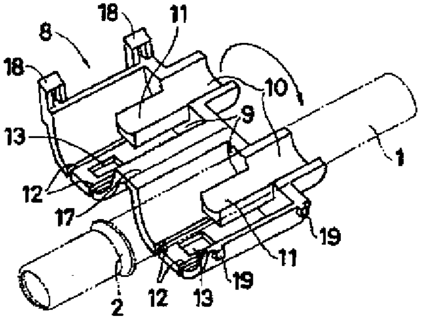
[Drawing 1]



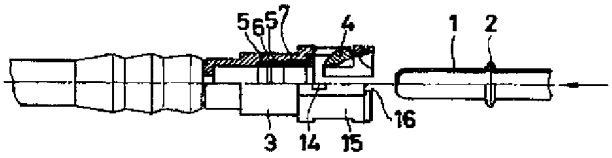
[Drawing 2]



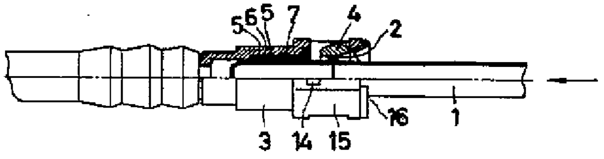
[Drawing 3]



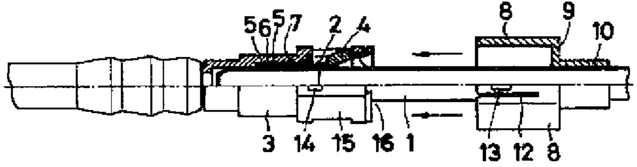
[Drawing 4]



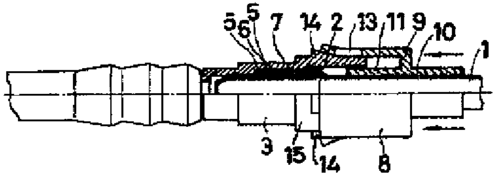
[Drawing 5]



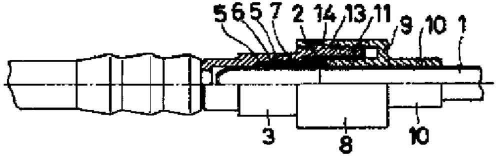
[Drawing 6]



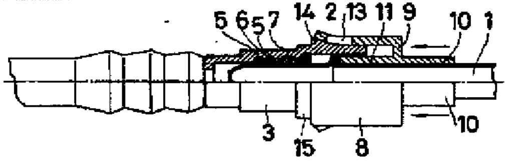
[Drawing 7]



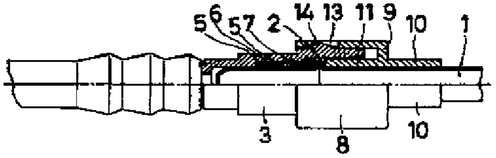
[Drawing 8]



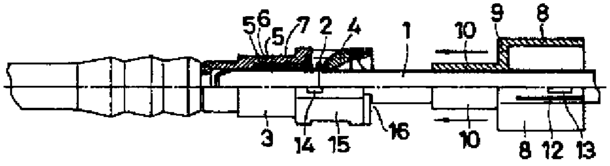
[Drawing 9]



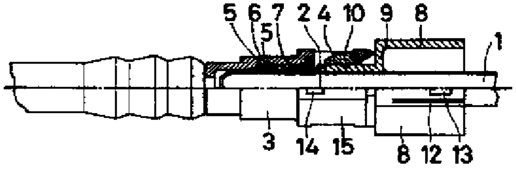
[Drawing 10]



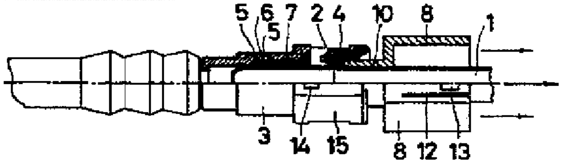
[Drawing 11]



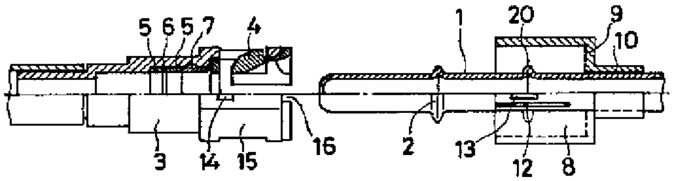
[Drawing 12]



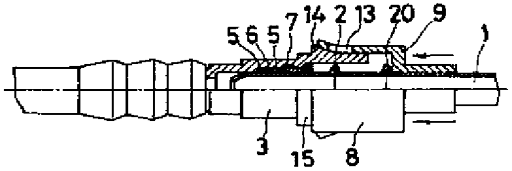
[Drawing 13]



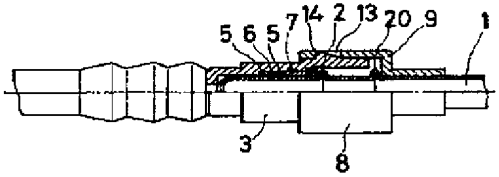
[Drawing 14]



[Drawing 15]



[Drawing 16]



[Translation done.]